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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/726,362

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Osamu Kobayashi

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EXAMINER

HAILE, AWET A

ART UNIT

PAPER NUMBER

2474

NOTIFICATION DATE

DELIVERY MODE

01/03/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/726,362	KOBAYASHI, OSAMU	
	Examiner	Art Unit	
	AWET HAILE	2474	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/22/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The replacement drawings (i.e., Fig. 26 and Fig. 29) were received on 10/22/2010, which replaces previously submitted drawings (Fig. 26 and Fig. 29). These drawings are accepted by examiner.

Specification

2. The substitute specification filed on 10/22/2010 has been entered.

Response to Argument

3. Applicant's arguments, see page 9, filed on 10/22/2010, with respect to rejection of claims 1-18 on the ground of nonstatutory obviousness-type double patenting have been fully considered and are persuasive. The nonstatutory obviousness-type double patenting rejection of claims 1-18 has been withdrawn.

4. Applicant's arguments filed on 10/22/2010 have been fully considered but they are not persuasive.

Regarding independent claims 1, 7 and 13 the applicant argues that the combination of Wolf '637 and Mamiya '649 does not teach, "a bi-directional auxiliary channel arranged to provide a number of support functions useful for main link set up and supporting main link operations ..." Remarks page 10.

Examiner respectfully disagrees. Wolf '637's column 2 lines 42-50, column 43, column 50 lines 45-60 and Fig. 2 teaches, using auxiliary bi-directional Display Data Channel (DDC) to

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transfer control/status data from/to the receiver/sink device to the transmitter and using the status and control information's to setup and control main data transfer channels CH0-CH2, thus, the combination of Wolf '637 and Mamiya '649 teaches applicant's argued limitation "a bi-directional auxiliary channel arranged to provide a number of support functions useful for main link set up and supporting main link operations".

In response to applicant's argument that "...the status information request occurs during a test mode of operation, not periodically during normal operation of the system..."

Remarks page 10.

the examiner respectfully disagrees, it is noted that the applicant is arguing a broad limitation (i.e. periodically sending a status check of the multimedia display device to the multimedia source device), however this limitation **does not exclude** a sink/ display device sending status /control information to a transmitter during test mode as taught by Wolf '637 (see column 50 lines 45-60 and Fig. 2).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., **the source device is not required to request any status information**. Additionally, **the status check is provided periodically during normal operations rather than during a test mode operation** as disclosed by Wolf, Remarks page 11 first paragraph) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant does **not** specifically claimed (in claim 1) **the source device is not required to**

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request any status information, the status check is provided periodically during normal operations rather than during a test mode operation.

Regarding dependent claims 2-6, 8-12 and 14-18 the applicant argues these claims conditionally on that of their parent independent claims.

Applicant's arguments are unpersuasive and, therefore, the rejections of these claims are hereby maintained.

Claim Rejections – 35 USC§ 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. **Claims 1-3, 5-9, 11-15 and 17-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf et al(US 6914637 B1) in view of Mamiya et al(US 2001/0030649).

Regarding claim 1, Wolf '637 discloses, a packet based closed loop video display interface with periodic status check capability arranged to couple a multimedia source device and

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a multimedia sink device(see abstract, column 50 lines 4-60 and Fig. 2, i.e., an interface/link coupling a source device and sink device) comprising:

an adjustable, high speed main link arranged to carry a number multimedia data packets from the multimedia source device to the multimedia sink device(see column 2 lines 42-52, column 12 lines 16-46 and Fig. 2, i.e., source device transmitting video data via one or more of channels 0-2 to the sink device);

and a bi-directional auxiliary channel arranged to provide a number of support functions useful for main link set up and supporting main link operations(see column 2 lines 42-50, column 50 lines 45-60 and Fig. 2, i.e., bi-directional auxiliary channel DDC transferring control data between the source device and sink device),

such as periodically sending a status check of the multimedia display device to the multimedia source device (see column 9 lines 45-67, column 12 lines 16 – 59, column 50 lines 44-60 and Fig. 2, i.e., sink device transmitting link status information to the source device via the bi-directional auxiliary channel DDC), Wolf '637 further teaches the transmitter/ source device adjusting/changing one or more parameters of the transmitter based on status information received from the sink device(see column 50 lines 14-60).

Wolf '637 does not explicitly teach, the closed loop created by combining the adjustable, high speed main link with the auxiliary channel allows for robust operation of the display interface over a variety of main link conditions.

However, the above mentioned claimed limitation is well known in the art, as evidenced by Mamiya '649. In particular Mamiya '649 teaches, the closed loop created by combining the adjustable, high speed main link with the auxiliary channel allows for robust operation of the

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display interface over a variety of main link conditions (see paragraphs 68, 69 and Fig. 5, i.e., display 30 using bi-directional fast transfer lines to transmit status/feedback to the host system 10 and host system adjusting/correcting other fast transfer data lines based on received feedback information).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of a display using bi-directional transfer lines to transmit status/feedback to a host system and the host system adjusting/correcting other fast transfer data lines based on received feedback information as taught by Mamiya '649, into the communication system of Wolf '637, in order to enable distributed processing to be made both at a system side and at a display panel side in such an advanced system, thereby bringing out the maximum display processing ability, as suggested by Mamiya '649(see paragraph 11).

Regarding claim 2, Wolf '637 discloses, wherein the auxiliary channel also provides information transfer between the multimedia source device and the multimedia display device and vice versa(see column 50 lines 45-60 and Fig. 2, i.e., bi-directional auxiliary channel transferring data between the source and sink devices).

Regarding claim 3, Wolf '637 discloses, wherein the information transferred over the auxiliary channel includes a set of packet attributes (see column 4 lines 60-62 and Fig. 2, i.e., source and sink devices communicating control protocol via the auxiliary channel DDC).

Regarding claim 5, Wolf '637 discloses, wherein the information transferred over the auxiliary channel includes results of training sessions (see column 81 lines 22-39, i.e., source and sink devices communicating test data packet and the sink device transmitting back the result to the source device).

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Regarding claim 6, the combination of Wolf '637 and Mamiya '649 discloses wherein the display device can inform the source device of events such as sync loss and/or dropped packets over the auxiliary channel (see Mamiya '649, paragraphs 68-69 and Fig. 5, i.e., the display device transmitting error information to the host system via the bi-directional fast transfer lines).

Regarding claim 7, Wolf '637 discloses, a method of providing a packet based closed loop video display interface with periodic status check capability arranged to couple a multimedia source device and a multimedia sink device(see abstract, column 50 lines 4-60 and Fig. 2, i.e., an interface/link coupling a source device and sink device), comprising:

carrying a number multimedia data packets from the multimedia source device to the multimedia sink device over an adjustable, high speed main link(see column 2 lines 42-52, column 12 lines 16-46 and Fig. 2, i.e., source device transmitting video data via one or more of channels 0-2 to the sink device); and providing a number of support functions useful for main link set up and supporting main link operations on a bi-directional auxiliary channel(see column 2 lines 42-50, column 50 lines 45-60 and Fig. 2, i.e., bi-directional auxiliary channel DDC transferring control data between the source device and sink device),

wherein the supporting main link operations include periodically sending a status check of the multimedia display device to the multimedia source device(see column 9 lines 45-67, column 12 lines 16 – 59, column 50 lines 44-60 and Fig. 2, i.e., sink device transmitting link status information to the source device via the bi-directional auxiliary channel DDC), Wolf '637 further teaches the transmitter/ source device adjusting/changing one or more parameters of

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the transmitter based on status information received from the sink device(see column 50 lines 14-60).

Wolf '637 does not explicitly teach, the closed loop created by combining the adjustable, high speed main link with a very reliable auxiliary channel allows for robust operation of the display interface over a variety of main link conditions.

However, the above mentioned claimed limitation is well known in the art, as evidenced by Mamiya '649. In particular Mamiya '649 teaches, the closed loop created by combining the adjustable, high speed main link with a very reliable auxiliary channel allows for robust operation of the display interface over a variety of main link conditions (see paragraphs 68, 69 and Fig. 5, i.e., display 30 using bi-directional fast transfer lines to transmit status/feedback to the host system 10 and host system adjusting/correcting other fast transfer data lines based on received feedback information).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of a display using bi-directional transfer lines to transmit status/feedback to a host system and the host system adjusting/correcting other fast transfer data lines based on received feedback information as taught by Mamiya '649, into the communication system of Wolf '637, in order to enable distributed processing to be made both at a system side and at a display panel side in such an advanced system, thereby bringing out the maximum display processing ability, as suggested by Mamiya '649(see paragraph 11).

Regarding claim 8, Wolf '637 discloses, wherein the auxiliary channel also provides information transfer between the multimedia source device and the multimedia display

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device and vice versa(see column 50 lines 45-60 and Fig. 2, i.e., bi-directional auxiliary channel transferring data between the source and sink devices).

Regarding claim 9, Wolf '637 discloses, wherein the information transferred over the auxiliary channel includes a set of packet attributes (see column 4 lines 60-62 and Fig. 2, i.e., source and sink devices communicating control protocol via the auxiliary channel DDC).

Regarding claim 11, Wolf '637 discloses, wherein the information transferred over the auxiliary channel includes results of training sessions (see column 81 lines 22-39, i.e., source and sink devices communicating test data packet and the sink device transmitting back the result to the source device).

Regarding claim 12, the combination of Wolf '637 and Mamiya '649 discloses wherein the display device can inform the source device of events such as sync loss and/or dropped packets over the auxiliary channel (see Mamiya '649, paragraphs 68-69 and Fig. 5, i.e., the display device transmitting error information to the host system via the bi-directional fast transfer lines).

Regarding claim 13, Wolf '637 discloses, computer program product for providing a packet based closed loop video display interface with periodic status check capability arranged to couple a multimedia source device and a multimedia sink device(see abstract, column 50 lines 4-60 and Fig. 2, i.e., an interface/link coupling a source device and sink device), comprising:

computer code for carrying a number multimedia data packets from the multimedia source device to the multimedia sink device over an adjustable, high speed main link(see column 2 lines 42-52, column 12 lines 16-46 and Fig. 2, i.e., source device transmitting video data via one or more of channels 0-2 to the sink device); computer code for providing a number

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of support functions useful for main link set up and supporting main link operations on a bi-directional auxiliary channel (see column 2 lines 42-50, column 50 lines 45-60 and Fig. 2, i.e., bi-directional auxiliary channel DDC transferring control data between the source device and sink device),

wherein the supporting main link operations include periodically sending a status check of the multimedia display device to the multimedia source device (see column 9 lines 45-67, column 12 lines 16 – 59, column 50 lines 44-60 and Fig. 2, i.e., sink device transmitting link status information to the source device via the bi-directional auxiliary channel DDC), Wolf '637 further teaches the transmitter/ source device adjusting/changing one or more parameters of the transmitter based on status information received from the sink device(see column 50 lines 14-60).

Wolf '637 does not explicitly teach, the closed loop created by combining the adjustable, high speed main link with a very reliable auxiliary channel allows for robust operation of the display interface over a variety of main link conditions.

However, the above mentioned claimed limitation is well known in the art, as evidenced by Mamiya '649. In particular Mamiya '649 teaches, the closed loop created by combining the adjustable, high speed main link with the auxiliary channel allows for robust operation of the display interface over a variety of main link conditions (see paragraphs 68, 69 and Fig. 5, i.e., display 30 using bi-directional fast transfer lines to transmit status/feedback to the host system 10 and host system adjusting/correcting other fast transfer data lines based on received feedback information).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of a display using bi-directional transfer lines to transmit status/feedback to a host system and the host system adjusting/correcting other fast transfer data lines based on received feedback information as taught by Mamiya '649, into the communication system of Wolf '637, in order to enable distributed processing to be made both at a system side and at a display panel side in such an advanced system, thereby bringing out the maximum display processing ability, as suggested by Mamiya '649(see paragraph 11).

Regarding claim 14, Wolf '637 discloses, wherein the auxiliary channel also provides information transfer between the multimedia source device and the multimedia display device and vice versa(see column 50 lines 45-60 and Fig. 2, i.e., bi-directional auxiliary channel transferring data between the source and sink devices).

Regarding claim 15, Wolf '637 discloses, wherein the information transferred over the auxiliary channel includes a set of packet attributes (see column 4 lines 60-62 and Fig. 2, i.e., source and sink devices communicating control protocol via the auxiliary channel DDC).

Regarding claim 17, Wolf '637 discloses, wherein the information transferred over the auxiliary channel includes results of training sessions (see column 81 lines 22-39, i.e., source and sink devices communicating test data packet and the sink device transmitting back the result to the source device).

Regarding claim 18, the combination of Wolf '637 and Mamiya '649 discloses wherein the display device can inform the source device of events such as sync loss and/or dropped packets over the auxiliary channel (see Mamiya '649, paragraphs 68-69 and Fig. 5, i.e., the

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display device transmitting error information to the host system via the bi-directional fast transfer lines).

8. **Claims 4, 10 and 16** rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf '637 and Mamiya '649 as applied to claims above, and further in view of Hagiwara (US 2004/0080515).

Regarding claim 4, the combination of Wolf '637 and Mamiya '649 does not explicitly teach, wherein the information transferred over the auxiliary channel includes auxiliary application data such as USB traffic.

However, the above mentioned claimed limitation is well known in the art, as evidenced by Hagiwara '515. In particular Hagiwara '515 teaches, wherein the information transferred over the auxiliary channel includes auxiliary application data such as USB traffic (see paragraphs 5, 44-45 and Fig. 1, i.e., personal computer 1 and image display 2 communicating USB data via control channels).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of transmitting/receiving USB data from/to image display apparatus using control channels as taught by Hagiwara '515, into communication system of Wolf '637, in order to correctly carry out a display attribute modification of a specific area in an image display apparatus, if the timing of the image signal transmitted to the image display apparatus from a personal computer deviates from a standard, as suggested by Hagiwara '515 (see paragraph 11).

Regarding claim 10, Wolf '637 and Mamiya '649 are silent on, wherein the information transferred over the auxiliary channel includes auxiliary application data such as USB traffic.

However, the above mentioned claimed limitation is well known in the art, as evidenced by Hagiwara '515. In particular Hagiwara '515 teaches, wherein the information transferred over the auxiliary channel includes auxiliary application data such as USB traffic (see paragraphs 5, 44-45 and Fig. 1, i.e., personal computer 1 and image display 2 communicating USB data via control channels).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of transmitting/receiving USB data from/to image display apparatus using control channels as taught by Hagiwara '515, into communication system of Wolf '637, in order to correctly carry out a display attribute modification of a specific area in an image display apparatus, if the timing of the image signal transmitted to the image display apparatus from a personal computer deviates from a standard, as suggested by Hagiwara '515 (see paragraph 11).

Regarding claim 16, Wolf '637 and Mamiya '649 are silent on, wherein the information transferred over the auxiliary channel includes auxiliary application data such as USB traffic.

However, the above mentioned claimed limitation is well known in the art, as evidenced by Hagiwara '515. In particular Hagiwara '515 teaches, wherein the information transferred over the auxiliary channel includes auxiliary application data such as USB traffic (see paragraphs 5, 44-45 and Fig. 1, i.e., personal computer 1 and image display 2 communicating USB data via control channels).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of transmitting/receiving USB data from/to image display apparatus using control channels as taught by Hagiwara '515, into communication

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system of Wolf '637, in order to correctly carry out a display attribute modification of a specific area in an image display apparatus, if the timing of the image signal transmitted to the image display apparatus from a personal computer deviates from a standard, as suggested by Hagiwara '515 (see paragraph 11).

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, Colton et al (US 2004/0203383 A1), Yamauchi et al (US 2004/0240454 A1), Hwang et al (US 2003/0048852 A1), Guenon et al (US 5805173), Pasqual no (US 2002/0163598 A1) and Lyle et al (US 7558326 B1) are recited to show method of data transfer from a source to sink.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to AWET HAILE whose telephone number is (571)270-3114. The examiner can normally be reached on Monday through Friday 8:30 AM - 4:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on (571)272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2474

/AWET HAILE/
Examiner, Art Unit 2474